

ABSTRACT OF THE DISCLOSURE

The accuracy of flight management systems, based on mathematical prediction models calculated from aircraft specific data, are improved by adding engine sensor data to the calculations, checking sensor and pilot entered data, and comparing data measured from redundant sensors. A thrust estimate, calculated from available engine sensors, is added to the thrust-minus-drag aircraft model allowing prediction parameters to be accurately calculated even in a cruise condition. Sensor data and pilot entered data used in calculating predication parameters are checked to improve accuracy. Redundant sensor data is compared to determine the level of agreement. Redundant sensor data is also compared with a valid data range to find the sensor with the most accurate data.

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